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ABSTRACT

This paper describes benefits of year-round education experienced by principals and teachers in 12 secondary schools in Jefferson County, Colorado. The Concept-6 three-track plan, which was implemented for 15 years, resulted in the following benefits: increased learning time and intensity; fifth-quarter enrichment; remedial intersessions; industrial cooperative education; and alternative education. Year-round schooling contributes to a decreased dropout rate and provides all-year counseling, cooperative work experience, school and community services, and improved staff development. Various curriculum sequences are presented. One figure, eight tables, and four sample calendars are included. (LMI)

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NATIONAL ASSOCIATION FOR YEAR-ROUND EDUCATION

Educational Benefits in Year Round High Schools

Experiences with 12 secondary schools on year-round schedules revealed a number of educational benefits achieved by principals and teachers. Educational effects which emerged during a 15 year experience on a Concept-6 three-track plan relate to (1) Learning time and intensity (2) fifth quarter enrichment, (3) remedial intersessions (4) Industrial cooperative education (5) alternative education.

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Educational Benefits In Year – Round High Schools

by William D. White, January, 1993

There are three different innovations being introduced to the high schools of America that will change the way we educate high school students in the future. First there is a change in the design of the curriculum being proposed to an outcome based model rather than a time based model of education. Second, some schools are introducing computer technology and curriculum software that can be made accessible, from many sources, to individual work stations in the classroom. Finally, the year-round school movement which is well established in elementary schools in many states has reached the high school level in some parts of the country. As more schools convert to a continuous operation twelve months of the year, the way we educate high school students also will change.

Time As The Constant In High School Education

The educational program of the public high school is both organized and constrained by the dimensions of time. Most high schools still award credit in Carnegie Units and present their courses of study on a five-by-five weekly schedule using a six period day. This means the student takes a minimum five classes a day, each lasting 55 minutes and in class sessions five days a week. The school year ends after 180 days so credit is awarded in each year long course. High Schools are accredited, based on the assumption that a minimum of 150 clock hours of teacher pupil contact was satisfied.

The teachers contract is also defined according to firm time dimensions. Most standard teacher contracts limit teaching to 180 days per year with a 40 hour work week. Extra days are added with pay for in-service sessions and conferences. The teachers work day consists of five class periods at the high school level, plus thirty minutes before the first class for preparation and thirty minutes after the last class taught for remedial assistance to pupils. Of course, there are many variations of this pattern but the basic assumptions are the same. The program of studies at the present time is based on the assumption that any given student can master a course of study in the same length of time as all the other class members. Moreover, the concept of "equal educational opportunity" dictates the same length of school year for everyone. Remedial and enrichment needs of students are taken care of through adjustments in curriculum rather than through adjustments in time of study.

When schools change to a continuous year operation all the parameters of time can change. If the educational resources of the school are always open and if instruction is available to students according to need beyond the minimum time allotted, then students begin to see the

possibilities of mastering their course requirements in a very different light. Counting days of the school year is no longer relevant. When year-round high schools are organized to insure that every student achieves mastery in each subject, then those who are falling behind can receive all the instructional time they are willing to take. This makes learning possible for everyone and leads to the very positive self-concept that results from knowing one can succeed.

Need For A School Year Flexible In Length

One of the chief sources of difficulty for the American public high school is that it must treat all students alike under the mandates of the universal compulsory minimum school year. Some students learn more quickly than others and when they complete the basic requirements early the school is expected to add programs for the gifted and talented at additional cost. At the same time, when students with learning difficulties cannot master the minimum requirements in the allotted time, the school is expected to add remedial programs at additional cost. The political answer to this dilemma has been to propose adding days of compulsory attendance for everyone. Since it would cost the average urban school district one million dollars a day to add to the present compulsory school year, the tax burden this implies makes it impossible. The better solution school districts have been working with for the past twenty years is year-round scheduling. This opens the school for up to 252 days of the year and creates both a savings in cost and flexibility in the use of staff and resources to deal more appropriately with the problems of high school education. After an individual student attends a basic school year, which may be between 168 and 180 days, then he or she is placed in an alternative activity, or vacations, depending on individual educational need or interest. This extended school year may run more than 220 days for the individual student and in some cases high school students have chosen to attend a full 12 months.

Elements Of A Year-Round High School Schedule

High schools that operate year-round seek to improve instruction and insure mastery by students in all basic requirements, as well as enrich learning for the able and ambitious, by keeping the school and all its services open during all four seasons of the year. This is done by dividing the membership of the school into three, four, or five attendance groups or "tracks" of students who are released at intermittent intervals to alternative learning activities or vacations during "off-track" time. The twelve months of the continuous school year is divided into four, five, six, even eight discrete periods of instruction depending on the preference of the faculty and community. Each period of instruction called a "learning term" or "term of attendance" presents a clearly defined segment of the curriculum in each course in the program of studies of the high school. These discrete learning terms may be as short as 30 days or as long as twelve weeks, again depending on faculty preference.

Compatible Elementary And High School Calendars

When schools choose a year-round calendar they have many models to choose from. Representation from both elementary and high school levels should be included in the selection committee assigned to choose an appropriate calendar to insure that models chosen are compatible and offer families with students at both levels some common vacation time. There are four variables which are manipulated to develop a year-round calendar:

1. Number of terms students must attend
2. Number of off-track (vacation) periods available
3. Number of tracks into which the school membership is divided
4. Percent of students released to vacation at a time

The number of tracks of students is the variable which determines the amount of economy in space utilization the plan will provide. The fewer the number of tracks the greater the savings.

(See Appendix B for calendar models which
are compatible for both elementary and high schools)

Improving High School Programs

Experience in the operation of year-round high schools has shown that there are a number of ways that the educational program is improved. This fact is not reported as widely as it should be because there are relatively few high schools that have converted to the continuous year operation. Those that have multi-track programs emphasize the cost savings aspects of year-round scheduling rather than educational benefits. Also the high school schedule consists of so many complex elements and the student body is usually so large, that principals and teachers contemplating a change have a hard time visualizing the way their curriculum fits into a pattern of "on-track" and "off-track" attendance and how they can maintain order in the schools educational environment. As a result, administrators and school boards find courage to introduce a year-round high school only when they are in desperate circumstances of overcrowded facilities and then promise that it is only a temporary measure.

High schools are improved through year round operation both in general environment and in specific program ways that have direct bearing upon achievement. The first thing that a student or teacher notices when a school converts to the year-round schedule is that the school membership seems reduced in size and pressures of crowding are eliminated. Student and faculty relationships improve and the curriculum, which is offered in shorter, distinct time intervals is more clearly defined. Spaced learning terms with intermittent periods of vacation throughout the year reduces stress. Some high schools, especially small ones, place all their

students on one track and schedule all their students into spaced learning terms to gain an improvement in retention.

Just why intermittent "off track" time should cause students to retain more learning is a feature of year-round scheduling that should be further researched. Dr. Forrest Shoemaker was the science department chairman at Jefferson County's Pomona High School when the school first went on the multi-track calendar. His teachers were concerned at first that students might forget concepts taught early in the year if their attendance was interrupted by a vacation. This fear was soon eliminated. In the Biology I course, Molecular Structure and Bio-Energy are taught early in the course under the quarter course entitled Bio Systems. Later in the course when students study Eco Systems they are expected to recall the previously taught concepts in order to comprehend their work in Photosynthesis. Teachers noticed that the year-round students had more complete recall of their earlier learnings than the nine month students. Many years later when the teachers went back to the more traditional schedule the problem of recall emerged again with students late in the course. It is as if the capacity for recall by traditional year students is clouded by the continuous pattern of attendance over nine months.

Frank N. Dempster reported on research he has done regarding factors which interfere with learning and retention of knowledge in the February 1993 issue of the Phi Delta Kappan. In an article titled "Exposing Our Students To Less Should Help Them Learn More," he classifies interference in three categories:

- Proactive Interference** — When previously learned information hinders learning new material.
- Retroactive Interference** — When the retention of previously presented information is reduced by continuous subsequent learning.
- Coactive Interference** — When one information processing activity interferes with another that is going on at the same time.

Dempster concludes that teachers who manage to present meaningful learning experiences by exposing students to less material actually improve retention. It appears the "retroactive interference" is the element which reduced the retention of previous learning in traditionally scheduled classes noticed by Shoemaker in his observation of science students. It should be noted that the length of the school year for Shoemaker's year-round classes was 168 days while the length of the traditionally scheduled classes resulting in less recall was 180 days.

Shoemaker had two other reasons for the better retention. In offering the quarter courses teachers had to be more focused in their presentations and students had to be more intense in their participation. Each discrete quarter course had to begin and end at precise times to fit the continuous year schedule. (see Figure 1.)

Figure 1.

Year-Round Schedule, Three Tracks

	August 1	Biology I 12 Months				July 31
A	Vacation	Web of Life	BioSystems	Vacation	Genetics	EcoSystems
B	Web of Life	Vacation	BioSystems	Genetics	Vacation	EcoSystems
C	Web of Life	BioSystems	Vacation	Genetics	EcoSystems	Vacation

He would tell his students each new term, "We have to hit the road running, there will be no review." Students simply made more effort in shorter course segments to meet the challenge of his instruction.

There are seven areas where initiatives in the form of programs can take place in the high school to benefit the education of students and improve instruction. These programs are:

IMPROVING HIGH SCHOOL EDUCATION YEAR ROUND

1. Remedial Instruction
2. Enrichment Instruction and Activities
3. All-Year Counseling and Advisement
4. Cooperative Work Experience
5. School and Community Service
6. Curriculum
7. Staff Development

Remedial Intersession

One of the first responsibilities of the teacher in a year-round high school is to eliminate the hopelessness that forms in a student's mind in a nine month school when he or she falls behind in a particular course and has no chance of recovery during the year. When a year-round teacher sees this situation developing they begin preparation for the time during the student's intermittent "off-track" term when they can meet individually or in small groups to offer individually prescribed remedial instruction. Teachers plan appropriate exercises that will bring the student up to grade level before the next term is resumed. Intersessions for remediation have five aspects which are important for school staff members to keep in mind. They are:

REMEDIAL INTERSESSIONS

1. Assess student deficiency
2. Identify a specific learning problem
3. Prescribe Appropriate Learning Activity
4. Do corrective teaching and counseling
5. Measure results

The responsibility for remedial intersessions resides with the regular classroom teacher who teaches the pupil being considered and has seen the student's day-to-day struggles in the classroom. Having the understanding that they will require the student to report to them during off-track time or make direct referral to another intersession teacher, year-round teachers are alert to identify specific deficiencies and maintain continuous contact with the student until results are satisfactory.

Since remedial intersessions deal with small numbers or individuals, a small space can be used for them. The most desirable solution is to have math skills taught in a math resource center, and reading or language skills taught in a language lab where all the materials will be available to teach individually or pursue independent study. Some schools using this approach are not crowded and resource rooms are possible in each subject area, but in crowded schools all kinds of alternative spaces are used. Some high school math and language arts teachers have turned their departmental work rooms into laboratories where individual teachers can work one-on-one. Make-shift arrangements are not the final solution of course, but when schools of the future become serious about eliminating failure, an extended school year through intersessions will be an integral part of the teaching model and appropriate space for remedial instruction will be provided.

In schools where the principal and staff realize the value of remedial intersessions the participation rate has been high and pupils receive a bonus in their education. One of the important discoveries that has come out of the year-round operation of schools has been the large number of students who will attend more days of school than the minimum school year requires when there is appropriate instruction offered that serves their needs for either remedial or enrichment instruction. This experience has made it clear that high school students want to succeed and they will attend extra days of the year voluntarily if the school is kept open and the instruction and resources are made available at no cost as long as they need to complete their requirements.

Enrichment Intersessions

A more popular program that has come out of the year-round movement has been the enrichment intersession. Some teachers believe that they can give extra learning opportunities

to both the remedial and the advanced student at the same time in a setting that is stimulating and challenging to both. In this program teachers design activities for "off-track" students where they can have fun doing creative projects and reinforce skills already taught. This more positive approach improves pupil attitude toward school at the same time.

The kinds of activities thought appropriate for enrichment intersessions are workshops, field trips, career explorations, group projects, program rehearsals and performances and excursions. Teachers are given great latitude as to the kinds of enrichment activities they present as long as they support instructional objectives of the regular program. Many of the activities are inspired by a special talent or creative interest the teacher has. Some are begun because of proximity of the school to an interesting facility or institution.

The extended field trip is one of the most frequent enrichment intersessions because year-round schools do not take time away from the students "on-track" sessions for field trips. Schools have found ways to make these trips easily managed and less costly for many areas of the curriculum. To keep costs down some creative arrangements have been made for transportation and supervision.

When the intersession activity has been written into the program of studies as a "curriculum required" activity some states provide reimbursement funds that are used to pay the cost of transportation. To supervise large groups teachers aides and volunteers can be used in addition to a teacher as long as certain legal requirements are met. For instance, in-service classes in field trip supervision may be conducted by staff development personnel to qualify teacher aides and volunteers to work in a supervisory capacity. To meet legal mandates the school district attorney may devise a contract for volunteers which is binding when authorized by the principal. These non-salaried contracts are for a specific activity at a specified time. They authorize volunteers to function as a temporary staff member who will supervise students for the preservation of good order, safety and control of activities outside the classroom. With an abundance of supervision high schools can add rewarding and memorable experiences to their programs.

Attendance In Year-Round School Programs

Data was collected in Jefferson County Colorado during one school year on the number of pupils participating in the extra attendance options available to students in two senior high schools, four junior high schools and eleven elementary schools. The interest at this time was to see if students would return voluntarily to school during vacation or "off-track" terms to participate in a school activity. No special transportation was provided to bring students to school and the practice of requiring intersessions was not used during this evaluation.

PARTICIPATION IN INTERSESSIONS OF YEAR ROUND SCHOOLS

School Level	Courses	Enrolled	Enrichment	Remedial	Av. Hrs. Length
Elementary	885	11,297	8,218	2,218	5.05 hrs.
Junior High	149	1,878	1,740	264	9.85 hrs.
High School	103	1,343	1,106	133	30.90 hrs.

It must be remembered that these extra periods of instruction were offered with no additional funds from the district. Elementary schools used this option much more for enrichment purposes. It was the belief of many teachers that these more enjoyable activities had a remedial effect also because they motivated students to become more engaged in their studies. However, the small number of participants in remedial activities were important because these were students whose educational progress was at risk and the intersession activity was used to eliminate failure.

Pupils in the year-round schools not only extended their school year voluntarily by returning during vacation times to participate in additional terms of instruction, they also attended their regular "on-track" terms better. When comparison data was collected on school attendance before the year-round program began, compared with pupil attendance, after the first year of the new calendar, the percentages of attendance improved at both the elementary and high school levels.

YEAR ROUND SCHOOL COMPARISON OF ATTENDANCE

Category	Base Year Versus First Pilot Year					
	Base Year			Pilot Year		
	ADM	ADA	Attendance %	ADM	ADA	Attendance %
Elementary	6,996	6,779	96.0	6,859	6,664	97.0
Junior High	3,222	3,095	96.0	3,341	3,222	96.0
High School	3,137	2,966	94.5	3,700	3,547	95.0

Teachers had fewer absences from work as well. When the cost savings per pupil was computed on all the benefits noted in the year-round school experience, it was observed that teachers took less sick leave than they had before. This reduction in sick and personal leave costs over a year's time was computed at a cost savings of 24 cents per pupil.

An unexpected effect of the year-round school experience was the influence it had on the district's high school drop-out statistics. Comparative data was kept on the number of high school drop-outs before students went on the year-round calendar and after a full year of experience with the new plan. Where the percent of high school students who had dropped out of school was 5 percent of the official enrollment before year-round scheduling, it was reduced to only 2 percent of official enrollment in the same schools after the new plan went into effect.

After some years on the year-round plan, schools reverted to a single track when they had a drop in enrollment. They would adopt a single track considered most desirable by the majority of parents and release all students to vacation at the same time. They called this single track "Modified C". When schools reverted to this "Mod. C" schedule which more closely resembled the nine month calendar, the drop-out rate went back up. (See diagram).

There were a number of administrators and teachers who had observed the effects of the program over the years. Some of these veterans were interviewed to obtain their views on key questions. Why did these benefits occur in year-round schools? Do they continue to happen after years of continued experience? Several of these administrators who had the experience of operating on both nine month and year-round calendars had some very practical reasons for the positive outcomes.

HIGH SCHOOL DROP-OUT RATES, YEAR ROUND VERSUS NINE MONTH

Year Round Schools			Nine Month Schools		
School	Calendar	Drop Outs	School	Calendar	Drop Outs
Pomona			Arvada		
1985-86	Year Round	23	1985-86	9 Month	99
1986-87	Year Round	27	1986-87	9 Month	83
Columbine			Alameda		
1985-86	Year Round	23	1985-86	9 Month	87
1986-87	Mod C	68	1986-87	9 Month	85

A high school principal said its easy to see why attendance in the year-round plan is better. There is much more flexibility in scheduling with new groups of students arriving and leaving at each term change. One of the things that makes high school students miss class is difficulty

with a course or teacher. Since students are rescheduled each quarter, those who are having difficulty know they can stick it out under a teacher where they have a problem until the end of the quarter, then, change to a new class being formed for students returning from vacation.

Dropout problems are resolved in much the same way. Difficulties in a high school student's life which seem serious enough to cause one to quit school in August often look far different in October. An individual student can miss the first term and after their personal lives are better arranged, come back to join a new class the second term. Ray Schneringer, principal at Arvada West High School, said he could maintain good discipline in a more relaxed atmosphere. "If you can't solve a difficult situation right now, you can do it next term."

Year-round schools allow teachers and principals many more opportunities to give students a second chance. John Musciano, principal at Pomona High School for many years said, "It takes a more flexible teacher" to enjoy this kind of operation and he goes on to say "You must have a buy-in from the whole staff to make it work."

Teachers generally seem to like year-round schedules better. When a survey was taken of all the teachers in three K-12 feeder systems to see how they felt about going back to a 9 month calendar, 90% voted against it. When principals from these schools were asked why teachers have this preference, they responded that the multiple vacations of a year-round calendar suits the life-style of teachers better. It permits them time to pursue a variety of interests and come back after each vacation rested and ready for a fresh start.

When schools went off the multi-track calendar principals said it cut down on the availability of vacation jobs for high school students. While on the multi-track calendar it was common practice for a student on one track to share a job with students on each of the other two tracks. This enabled three students to keep a good job occupied for a full 12 months through job sharing. This may be another reason why drop-outs declined. Students could work full-time during a vacation period that occurred when there was no competition from other students for jobs and the jobs were of higher caliber because they were full-time positions.

Extra Term Attendance

Many hundreds of high school students come back to school during their vacation terms to enroll in additional courses. Some enroll in classes which they can not get otherwise or to strengthen their preparation for college or to repeat a class they did not pass in the previous quarter. Principal John Muscano of Pomona High School said that the chief educational difference he noticed between the year-round and traditional high school was that year-round students took more courses. Data was collected during the evaluation phase in Jefferson County to determine the pattern of attendance occurring during fifth quarter times when pupils of a particular track were supposed to be on vacation. This compares with fourth term attendance in schools where the curriculum is organized in trimesters. The attendance of one student in

one course for the duration of an extra quarter of the year was credited as one student space utilized. In two senior high schools on the year-round calendar, 2,010 additional student spaces were utilized during fifth quarters. Of these 1,056 were used for enrichment purposes to enlarge upon the program of studies selected by the individual student. Another 954 spaces were utilized for remedial purposes to make up a deficiency. The additional credits awarded in one year's time totaled 1,171 in two high schools on year-round schedules.

Principals and former students in these schools cite many examples to show how students used the extra term option.

Mace Pemberton, a practicing engineer in the Denver area tells of his experience as a student in one of the year-round high schools. While attending Arvada West High, he anticipated college and an engineering degree but was unsure of his preparation to meet the rigors of advanced mathematics in a tough engineering program. During a vacation term he enrolled in a single class in the high school's most advanced math course to see if he could make the grade. His success as a professional engineer today gives testimony to the benefit of the fifth term option. There are many others.

Anita was a sophomore student who had trouble with geometry and needed to repeat the first quarter during a vacation to improve her grade. She felt she had time for a second class and decided to take a quarter of art. Her teacher for the painting and drawing class saw that she had an undiscovered talent and advised her to build a portfolio that she might use for college entrance after her senior year. That portfolio led to a scholarship and a degree in commercial art and a successful career.

Margaret was a June graduate who wanted a class in rudimentary Latin vocabulary to prepare for a pre-med degree at the University of Colorado. She could never take Latin before because as a band student she always had a schedule conflict. Even though her course work was complete, she came back for the first quarter of Latin in August and September before entering the university. Her teacher helped her concentrate on the Latin derivations of scientific nomenclature.

One of the surprises in the data on fifth quarter attendance was the extent to which elementary schools used this option. Each of the elementary schools in the high school feeder system were observed regarding their use of the fifth term option and 504 spaces were used with 250 for remedial purposes.

YEAR ROUND SCHOOLS FIFTH QUARTER ATTENDANCE

School Level	Spaces Used	Enrichment	Remedial	Credit	Noncredit
Elementary	504	251	250	NA	NA.
Junior High	393	213	180	250	143
High School	2,010	1,056	954	1,171	839

Principal Jim Cramer of Warder Elementary, reported the case of a fifth grade boy who was the school's most passively resistant pupil. After the school tried everything to get him engaged in studies including in-school and in-home supervision and the withdrawal of all privileges they consulted with the parents and agreed to require his attendance continuously for six terms until he finally began to study. According to the principal "I can honestly say that he became a very good student. Since ability was not an issue, if it were not for year-round school we might have lost him."

The fifth term attendance proved to be a very effective way to increase the length of the school year for selected students and there was no extra cost to the district. This extension of the pupil's attendance in the elementary school was done for two reasons. Cramer said, "Very frequently we added a 5th term in lieu of retention for pupils in grades K-3. For those in grades 4-6 we added a term for students who are unmotivated or did very little work. For special education pupils we also added additional weeks to their I.E.P. if they weren't meeting their objective for some reason, such as passive resistance unrelated to ability."

All-Year Counseling And Advisement

In year-round high schools college counselors, vocational counselors and vocational teacher-coordinators should be twelve month employees. Not only does this reduce the cost per pupil of these services but it is important for the coordination of cooperative education programs to operate during all seasons of the year. Students need to view the high school as the place that is always available to them for guidance. Alienated youth and drop-outs testify that a primary reason for their despair is that no one seems to care about their circumstances and they see no hope for success in their immediate future.

In Japan and Germany the vocational high schools closely coordinate the placement of their students into apprenticeships and entry positions for full-time employment the way American high schools coordinate the entry of graduates into college. The records of comprehensive high school students in America are maintained and data is recorded in ways that facilitate college entrance, but records are never sent to employers to support the applications of students seeking employment after the completion of high school. Employers complain that they can't get records in time for their purposes because schools are either closed after graduation or the records are not understandable to anyone but college admissions officers. Cornell University's John Bishop found in his research on the employment of high school graduates, that employers make little distinction between high achieving and low achieving graduates. Also higher achieving students appear to receive no better pay at the time of employment or for some time thereafter.

Charles Shultz, senior fellow with the Brookings Institution, did a review of the research on high school education and how present conditions contribute to inequality in income and to sluggishness in American productivity growth. For young workers with a high school education

or less there is a positive relationship between how much they learned in school and productivity later on in the work place. Since wages are little different for high achievers and low achievers there is little incentive for students who are not going to college to work hard and get good grades in high school. Why firms do not reward high achievers with good jobs and higher wages isn't entirely clear.

The American comprehensive high school has never viewed itself as having a responsibility to help students make the transition from school to jobs in the work force. The most effective thing the high school could do to improve the attitude of students toward their school and encourage students to complete their education would be to extend vocational counseling to include the placement of graduates in jobs in local and state industries. If students could count on the school to help them find the best job opportunity available the school would be perceived as a much more important force in the life of those students who do not plan to go to college. This is not possible in the nine month school because it is closed when placement and advisement services are most needed.

Cooperative Work Experience

In year-round high schools vocational teachers can place students into full eight hour day work stations during the students "off-track" terms. They can keep a work station filled for 12 months by coordinated job sharing among three or more students. In the work experience programs of the nine month high school the release time approach to on-the-job training tends to make the student a part-time worker and a part-time student. The job gets in the way of their homework and prevents them from participating in extra curricular activities. In year-round schools vocational students can have a full day class schedule during their "on-track" terms.

When cooperative education students are placed in their work stations during their "off-track" terms their on-the-job experience is more genuine with full day duties. Also they can be placed in better jobs with full day assignments. This also opens up more work stations that offer higher skill levels to students. Many employers will not take coop students from nine month schools because they have only twelve month positions that require workers from 8:00 A.M. to 4:30 P.M. Employers are glad to get coop students who can fill a position for twelve months.

Industrial Cooperative Education (ICE) is one of many vocational programs that permits high school students to enroll in a work-study course under a teacher-coordinator and work during "off track" time in any occupation that will teach the student employable skills. Jobs may include anything from glazier to electrician or clerk to custodian. Since 70% of high school seniors and 50% of sophomores work for pay some time during the year a large number of students could improve their employability upon graduation if they were supervised and receive credit under a qualified vocational teacher. Reimbursement funds are available in most states under the state vocational board of education to pay a portion of the teachers salary for job development

activity. This kind of vocational education program can serve the largest number of students when it is scheduled during "off-track" time of a student in year-round programs.

Release time for work experience during a school day in nine month schools is objectionable to some critics of present day high schools. Ross Perot, while chairman of the Select Committee on Public Education in Texas in 1983, leveled a heavy criticism upon vocational education and the practice of releasing students from classes during the regular school day to engage in non-academic vocational pursuits. After a mid-August fact finding tour of the state's schools in 1983, he began to speak out against those activities that took time away from academic instruction. He was particularly hard on vocational agriculture. Repeatedly he told the story of an agriculture student who missed thirty-five days of school in 1982 - 83 while showing a pet chicken to livestock shows around the state. When the Houston Fat Stock Show came to town a Houston newspaper sent reporters to check on the accuracy of Perot's story. He came out a winner when the interviews showed that no student contacted had missed fewer than twenty days of school and according to Perot, "a new world champion at forty-two days with a sheep" had been discovered. There is no need for the encroachment of release time activities of vocational education on academic instruction in year-round schools.

Funding for cooperative work experience programs on a year-round schedule can be supplemented from state and federal sources if full day vacation assignments are utilized. The Carnegie Council On Policy Studies (San Francisco: Jossey-Bass, 1979, ch. 6) suggests in their report "Giving Youth A Better Chance," that America's high schools should operate year-round in order to be fully restructured and give youth the opportunities to experience "education for work and work as education." One of their conclusions was that "in many ways, a work experience program could be more effectively developed in a school that operates year-round." They go on to suggest that Federal Funds should be released to year-round schools to pay the costs for work site visits by the high school's vocational teacher-coordinators and to fund the need for year-round vocational counseling and job placement.

School and Community Service

Many high schools are requiring community service projects as part of the students experience to qualify for graduation. "Off-track" time during the twelve month school year enables several high school students from different tracks to share a single position or project. Whether the student serves in the community hospital or in the school library their experience is more genuine and more valuable when they are on duty during regular working hours for full time service.

Students who hold positions of responsibility in school activities such as newspaper writers, or year book editors always return to work on their publications during "off-track" time. This can also be true for peer counselors, teachers aides, and executive interns working in government

officers and other community agencies. Teacher sponsors can get free to make site visits more easily in year-round schools when intern sponsorship is part of their "off-track" assignment.

Curriculum Sequence

When a departmentalized high school reorganizes its curriculum for year-round scheduling all of the courses in the program of studies are divided into segments that can be taught within the time span of the attendance terms that make up the twelve month school year. These segments of an individual course may be called quarters or trimesters or modules, depending on how much of a full year's credit they award. They are presented in the order of sequence which teachers feel best suite their plan of presentation. Very few courses require a rigid chronology. There is need for only two sequences of presentation in the master schedule because students, when they are "off-track", never fall more than one quarter or module behind the students currently "on-track".

Master Schedule

The principal and faculty build a schedule of classes for each of the terms of attendance of the school year. This is done to insure that all students present begin each attendance term together and that all courses being offered at any given time are open to the total membership present. Teachers must coordinate the course segments being offered to insure that students returning from "off-track" time do not have to repeat part of the curriculum or find a gap in the schedule that does not offer instruction which they should have next in their sequence.

The following matrix illustrates the sequences of course offerings that would be provided in the master schedule for a three track year-round schedule where the twelve month school year is divided into six terms.

YRE 3 TRACK SCHEDULE

TERM 1 Aug - Oct				TERM 4 Feb - Apr			
Tracks	A	B	C	Tracks	A	B	C
Quarters		1	1	Quarters		3	3
TERM 2 Oct - Dec				TERM 5 Apr - June			
Tracks	A	B	C	Tracks	A	B	C
Quarters	1		2	Quarters	3		4
TERM 3 Dec - Feb				TERM 6 June - Aug			
Tracks	A	B	C	Tracks	A	B	C
Quarters	2	2		Quarters	4	4	

The matrix indicates that during term 1, which extends from early August to October, the students in tracks B and C begin the first quarter of their curriculum. All students present in school at this time are on the same sequence and students from different tracks can be mixed together in their classes. The number of students present in school can be one-third fewer than the total membership of the school. This has the effect of increasing the building capacity by 50%.

In term two track A students come to school for their first quarter of instruction while track C students continue on and begin their second quarter of instruction. At this time track B students go "off-track" and enter any of a number of options such as intersessions, optional elective classes, repeat a class failed, report to cooperative work-study, enter a service or activity or vacation. When term three begins in December all the students in school are on the same sequence, so students from different tracks can be mixed in all classes being offered. Since these students will complete two quarters of the curriculum during the third term they will have finished the equivalent of a semester in a nine-month school.

Teachers must work closely together within departments to reach agreement on the content for each course in the program of studies. All courses must be organized in segments of uniform length. The order of presentation must be agreed upon in advance. To make any given course accessible to all students two sections must be created to follow the two sequences of the schedule. It is highly beneficial to make as many courses as possible non-sequential to give all students easy access.

A four track, four term year-round schedule is used in some high schools where the curriculum is divided into trimesters. This is usually a modification of the traditional calendar with a fourth term added during the summer months.

YRE 4 TRACK SCHEDULE TRIMESTER CURRICULUM

TERM 1					TERM 3				
Tracks	A	B	C	D	Tracks	A	B	C	D
Trimester		1	1	1	Trimester	2	2		3
TERM 2					TERM 4				
Tracks	A	B	C	D	Tracks	A	B	C	D
Trimester	1		2	2	Trimester	3	3	3	

The four term, four track schedule permits students to attend voluntarily during term 4. Those who do this may take off one of the three previous terms if they prefer. This calendar can be used to increase building capacity in crowded schools by mandating the assignment of 25% of the student membership to each track. This would produce a 33-1/3% increase in building capacity.

The five track, five term year-round calendar is chosen by some high schools because it offers a common one month vacation for all students in July.

YRE 5 TRACK SCHEDULE

TERM 1 Aug - Oct						TERM 4 Feb - Apr					
Tracks	A	B	C	D	E	Tracks	A	B	C	D	E
Quarters		1	1	1	1	Quarters	3	3	3		4
TERM 2 Oct - Dec						TERM 5 Apr - June					
Tracks	A	B	C	D	E	Tracks	A	B	C	D	E
Quarters	1		2	2	2	Quarters	4	4	4	4	
TERM 3 Dec - Feb						TERM 6 July					
Tracks	A	B	C	D	E	Tracks	A	B	C	D	E
Quarters	2	2		3	3	Quarters	V A C A T I O N				

When the five track calendar is mandated with an equal number of students on each track this model will produce a 25% increase in building capacity.

A variation of the four track schedule is used by some high schools where they want students to attend two ninety day semesters and be "off-track" thirty days during two different times each year. The semesters are comprised of three 30-day modules of instruction in each course.

The curriculum under this plan can be divided into six units, called "modules". When the student membership is divided equally among the four tracks the 90-30 calendar will produce a 33-1/3% increase in building capacity.

Staff Development

Teachers like year-round schools because the intermittent vacations suit their life style and the team organization of the faculty gives them greater ownership of their school. Staff development is done by teachers during contract fulfillment days in their "off-track" time. Teachers at both the high school and elementary school level who are on the same track meet to plan the articulation of instruction for students on a K-12 continuum for each subject area.

YRE 4 TRACK SCHEDULE

90 - 30 CURRICULUM

TERM 1					TERM 5				
Tracks	A	B	C	D	Tracks	A	B	C	D
Modules		1	1	1	Modules		4	4	4
TERM 2					TERM 6				
Tracks	A	B	C	D	Tracks	A	B	C	D
Modules	1		2	2	Modules	4		5	5
TERM 3					TERM 7				
Tracks	A	B	C	D	Tracks	A	B	C	D
Modules	2	2		3	Modules	5	5		6
TERM 4					TERM 8				
Tracks	A	B	C	D	Tracks	A	B	C	D
Modules	3	3	3		Modules	6	6	6	

The need to improve classroom instruction can be done in a very effective way by using collegial visitation teams of "off-track" teachers. These teams, called clinical observation and analysis teams, are composed of from two to four teachers, usually led by a master teacher, who make exchange visits to observe and critique the teaching methods of colleagues. They meet with a teacher - client in a planning session to discuss specific objectives and methods planned for a chosen class. Then the team observes the teacher during the period of instruction and each team member records as many relevant observations as possible. In a meeting that follows, they discuss with the client the effectiveness of the instruction and make suggestions for improvement. This kind of observation and critique is much better received by teachers than administrator inspections because it respects their professional status and creates the will for self-improvement. In the final analysis year-round schools permit teachers to be stronger professionals who want to take more responsibility for the quality of instruction in their schools.

Outcome Based Education

The public schools in America are being asked to change more drastically today than ever before. One of the chief reasons for this criticism is that schools are not preparing students for life in the real world. In the past, the public high school has placed all its emphasis on getting the bright students prepared for college. Students planning to enter the world of work after high school have been overlooked. The change that is leading us into the future, is the new way of defining the curriculum, as proposed by the advocates of Outcome Based Education (OBE). This new concept seeks to emphasize performance not content when schools decide what they teach.

According to Bill Spady, Director of the International Center on Outcome-Based Restructuring, the present credentialing system in all states based on Carnegie units and clock hours of teacher pupil contact should be abandoned. Rather, school districts need to decide what they want students to be able to do at the end of their time in school. Then "design down" from goals to a pattern of assessments that enable students to demonstrate what they can do successfully. The bell curve no longer applies because we should expect all students to be able to do well the performances that really count in life.

In March of 1992, the state board in Pennsylvania decided that the school calendar would no longer define their educational system. They declared that schools should turn their efforts toward identifying appropriate outcomes for their students and find ways to document those outcomes. Some school districts are well on the way toward making the conversion to this new concept.

Aurora, Colorado has pioneered role performance exit outcomes. Littleton High School in Littleton, Colorado has dropped the traditional array of courses required for graduation and defined their standards in terms of 19 different outcomes. At the national level the National Council of Teachers of Mathematics issued its standards several years ago and groups in the other curriculum areas are beginning to follow suit. For districts that want to start making the change to OBE, Spady suggested in an interview with Ron Brandt of ASCD, that they concentrate on two approaches. First, they need to petition the state board for a waiver from traditional time based requirements. Second, implement the four principles of OBE which include a focus on expectations of pupil performance, and provide opportunities for students to succeed. Third change the grading and tracking structure in schools and finally redefine what is taught by designing down from clearly established outcomes.

The high schools of the future will operate year-round to enable all students to find success in preparing for life in the real world. Time on the calendar will not define the standards for graduation. A high school that operates continuously through 12 months of the year will be better equipped to provide the flexibility teachers well need in guiding the kinds of extended activities they will be planning. When a primary goal of the school is providing opportunities for

every student to experience success, the school will have to be accessible and that means the doors will always be open and teachers will be available twelve months of the year.

FOUR VARIABLES INVOLVED IN A YEAR ROUND SCHOOL CALENDAR

- 1. NUMBER OF TERMS STUDENTS MUST ATTEND.**
- 2. NUMBER OF VACATION PERIODS AVAILABLE**
- 3. NUMBER OF TRACKS INTO WHICH SCHOOL POPULATION
IS DIVIDED**
- 4. PERCENT OF STUDENTS RELEASED TO VACATION
AT A TIME**

DEFINITIONS:

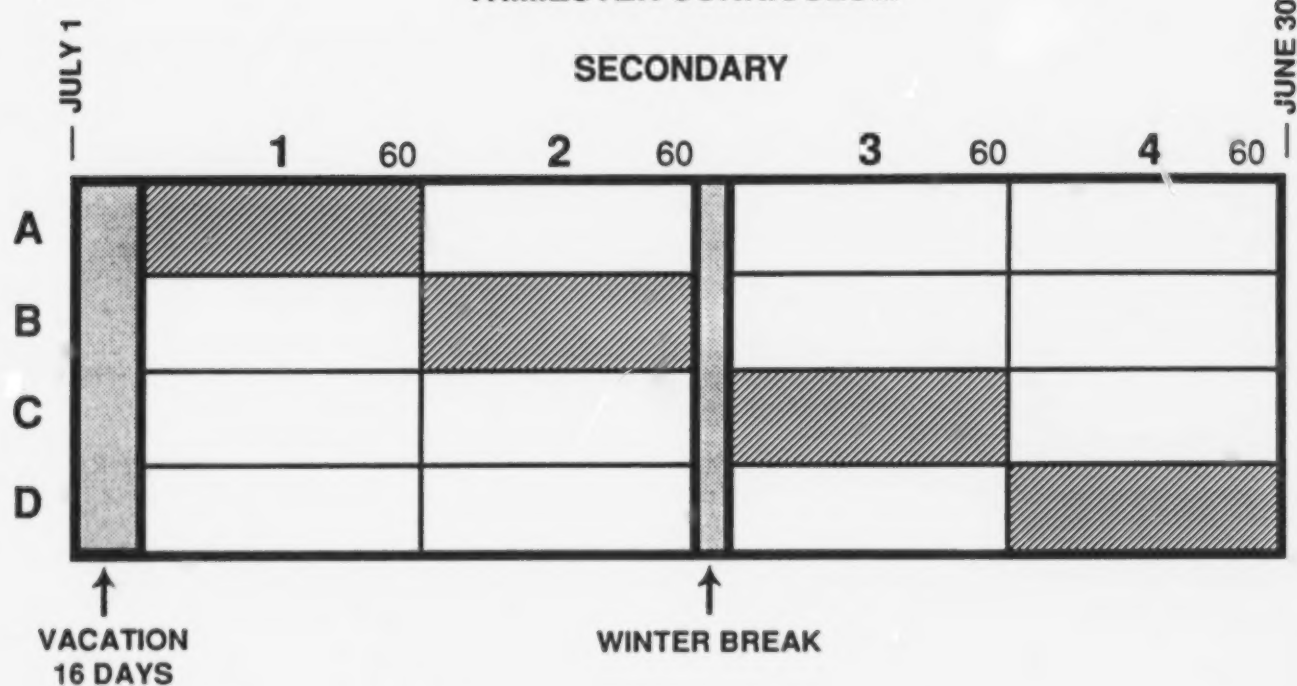
TERM – A PART OF THE SCHOOL CALENDAR

TRACK – A DIVISION OF SCHOOL MEMBERSHIP

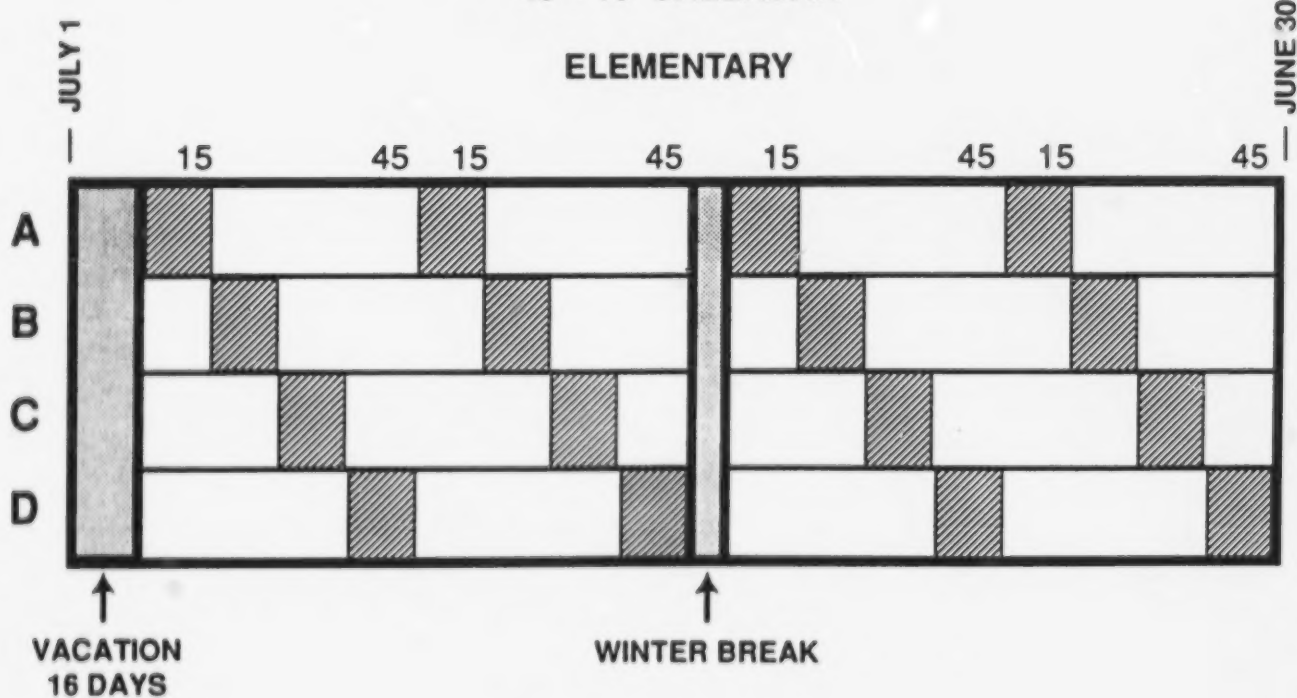
QUARTER – UNIT OF INSTRUCTIONAL TIME

COMPATIBLE 4 TRACK 4 TERM CALENDARS

TRIMESTER CURRICULUM

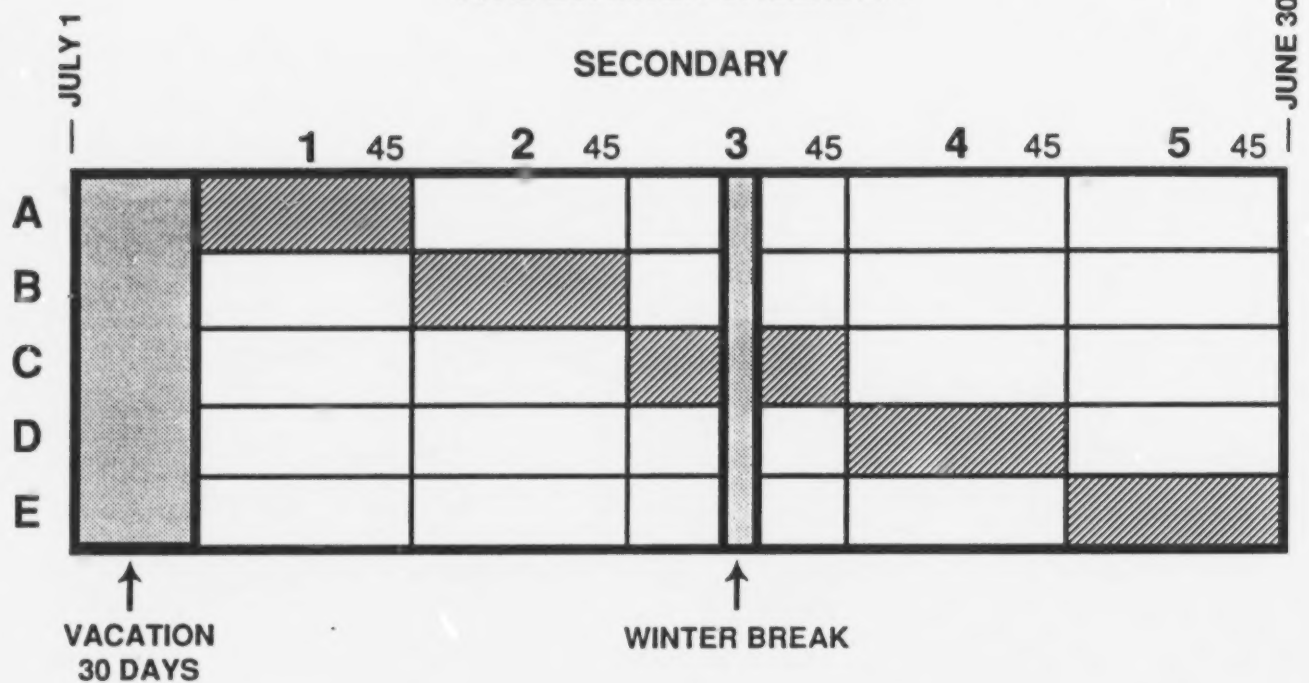


45 - 15 CALENDAR

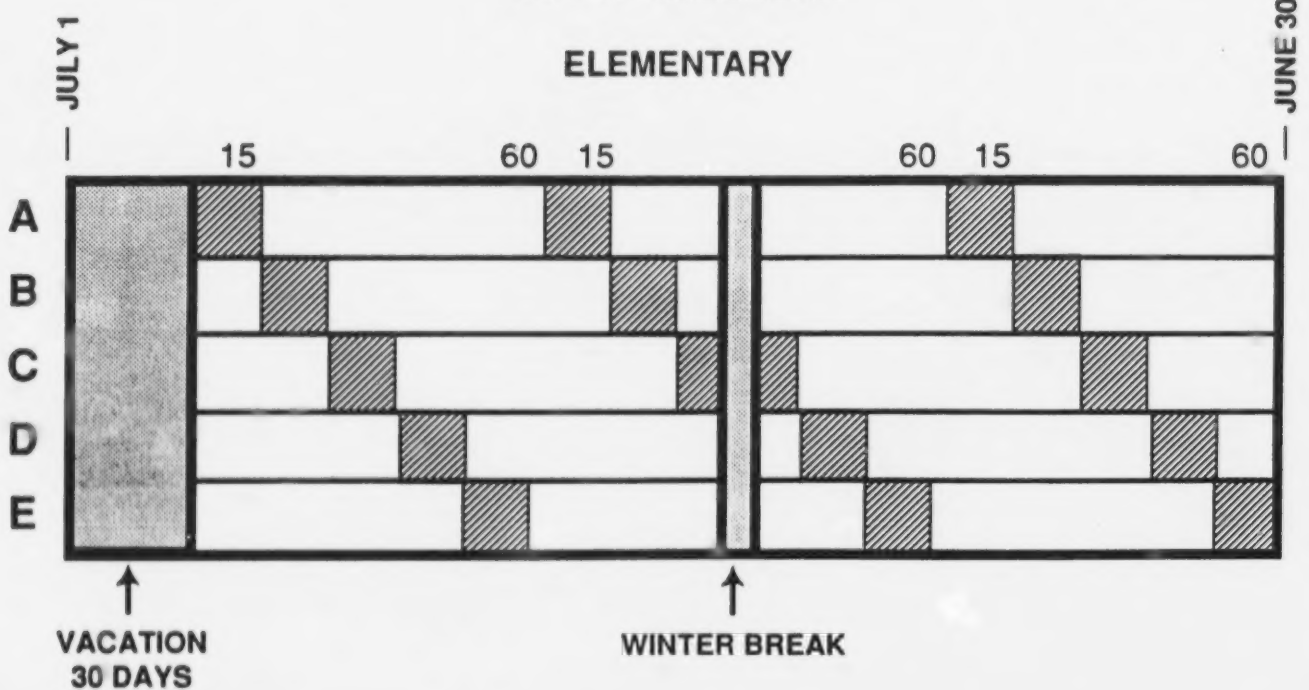


COMPATIBLE 5 TRACK CALENDARS

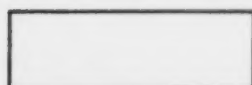
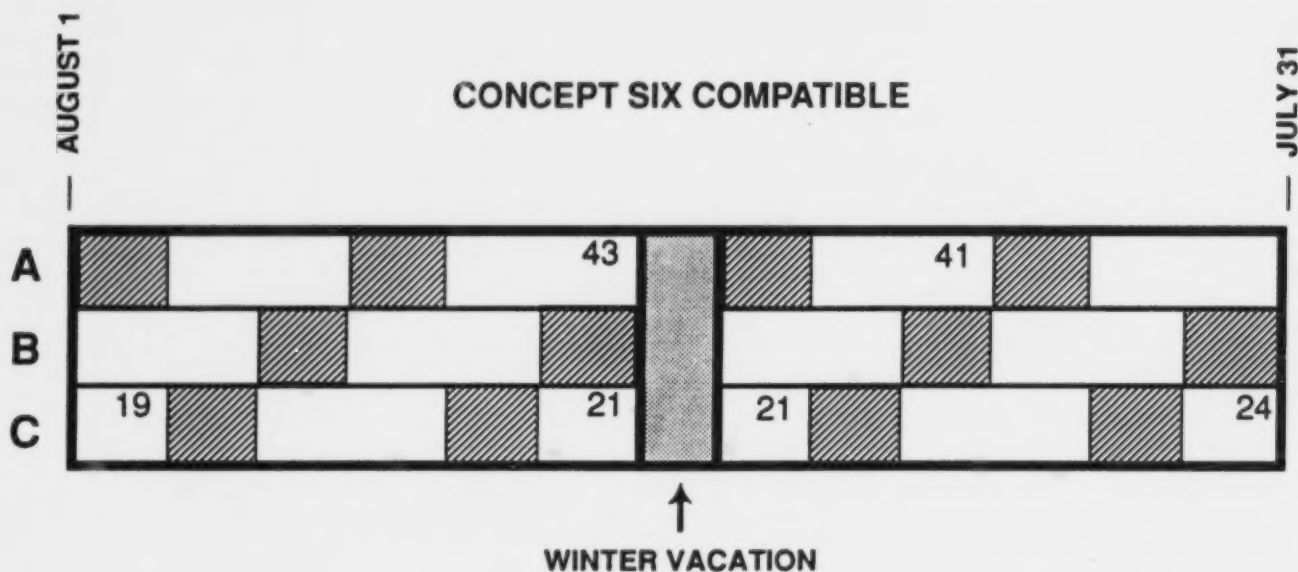
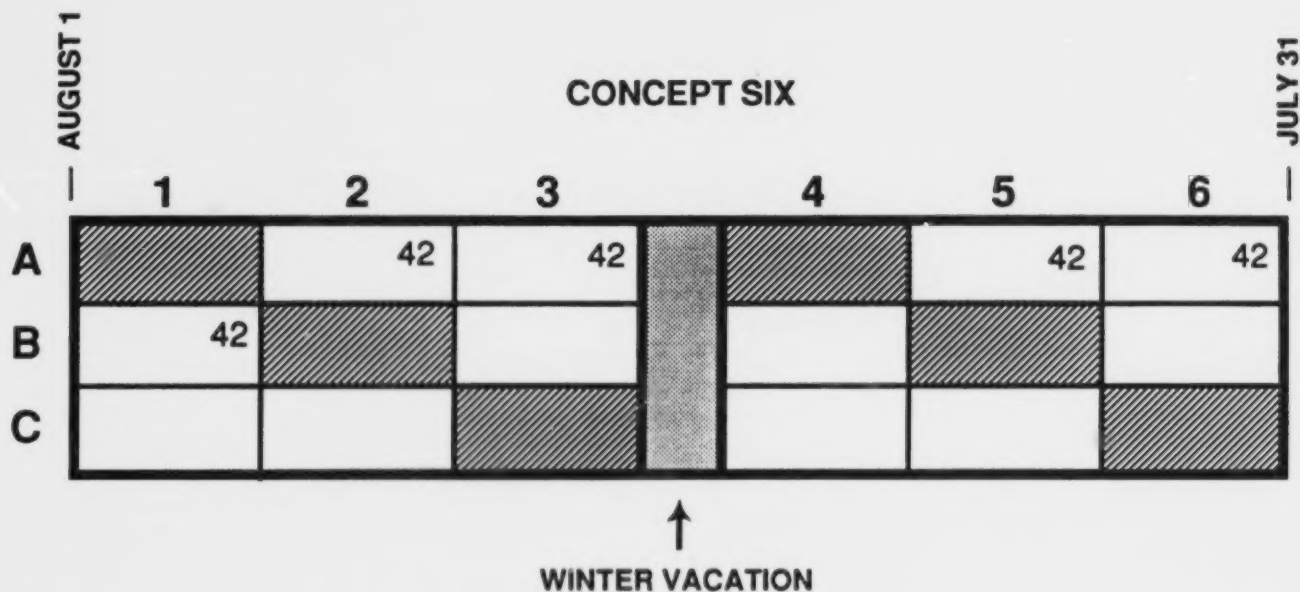
FIVE QUARTER CALENDAR



60 - 15 CALENDAR



COMPATIBLE THREE TRACK CALENDARS



Term in Session

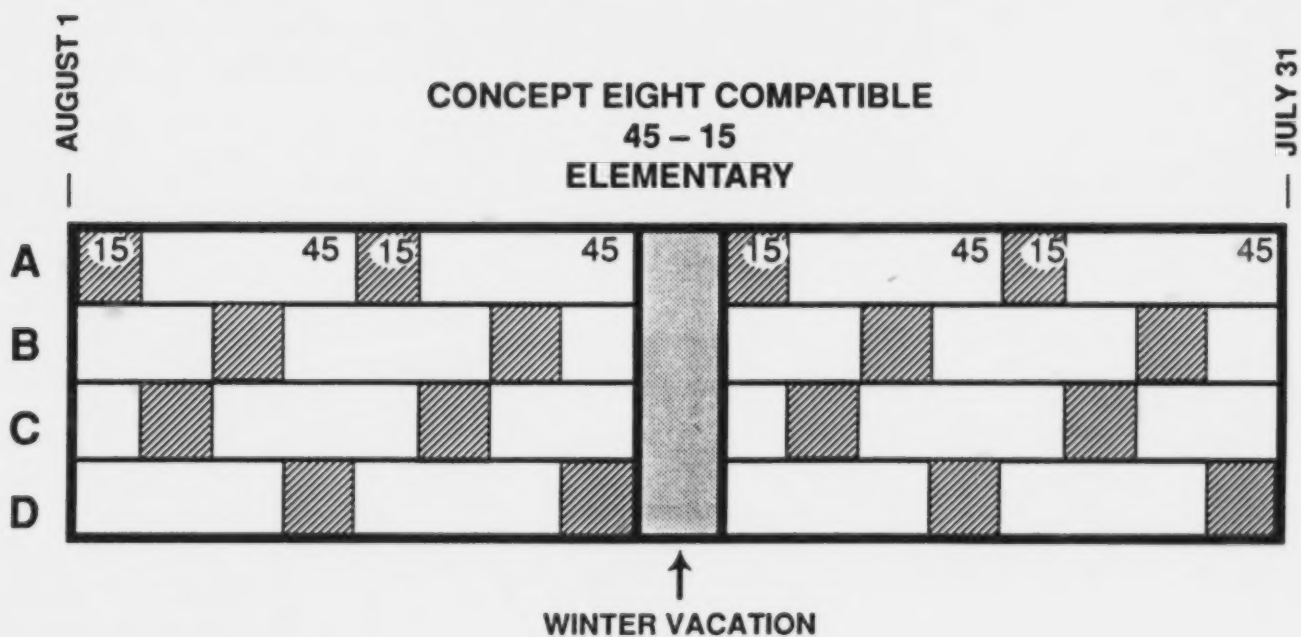
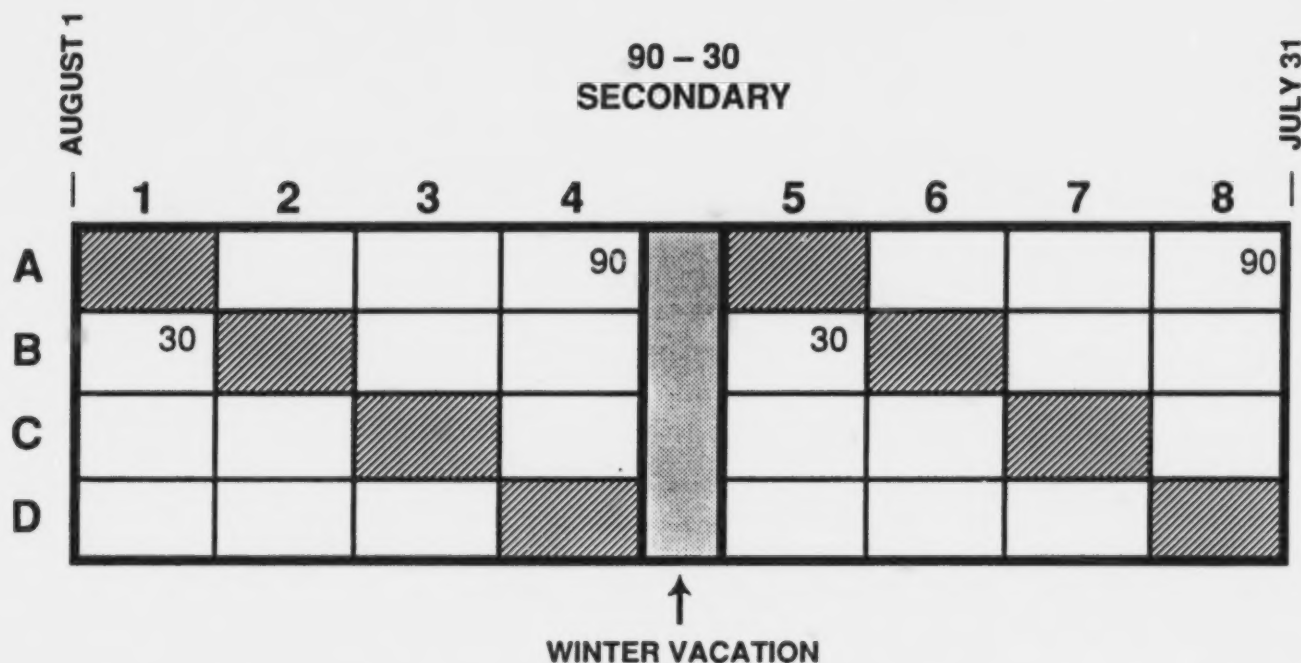


Term not in Session



Entire student body and teaching staff are on vacation

CONCEPT EIGHT CALENDAR



Term In Session



Term not In Session



Entire student body and teaching staff are on vacation

B – 5